ENVIRONMENTAL ASSESSMENT

for

Hand Pile Burning
For Hazard Fuel Reduction

EA# OR 118-03-026

U.S. DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
MEDFORD DISTRICT
GLENDALE RESOURCE AREA

October 2003

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Chapter 1: Purpose and Need

1.0 Introduction

The Glendale Resource Area (GLRA) conducts an annual young stand management program that includes brushing and pre-commercial thinning. These silvicultural activities were previously analyzed and found to comply within a category of actions that do not require the preparation of an environmental document (Code of Federal Regulations CFR 40 § 1508.4). The Categorical Exclusion for these activities applied only to silvicultural treatments and not for the treatment of created slash. Created slash increases fire hazard. Fire hazard is defined as the existence of a fuel complex that constitutes a threat of wild land fire ignitions, unacceptable fire behavior and severity or suppression difficulty. Wild land fire hazard can be reduced through the burning of this created slash.

Project locations are scattered throughout the GLRA. The attached maps in the Appendix identify the individual units proposed for fuel and hazard reduction treatment. Treatment areas are located within the Matrix and Riparian Reserve land allocations, as described under the Medford District Resource Management Plan (RMP).

1.1 Purpose and Need

The purpose and need of the proposal is to reduce the fire and fuel hazard created by various silvicultural practices, generally surrounding younger conifer stands. The Medford District Resource Management Plan provides direction to "Reduce both natural and activity based fuel hazards through methods such as prescribed burning…" (RMP p.91). Reduction in fuel loading would decrease wild land fire intensity, flame length, and rate of spread if a wildfire occurs. The potential for effective direct attack on the fire is greater when the fire is less intense, slower moving, and has lower flame lengths.

1.2 Plan Conformance

This environmental assessment (EA) tiers to and conforms to the Final Supplemental Environmental Impact Statement and Record of Decision for Amendments to Forest Service and Bureau of Land Management Planning Documents Within the Range of the Northern Spotted Owl (FSEIS,1994 and ROD, 1994); the Medford District Proposed Resource Management Plan/Environmental Impact Statement and the Medford District Record of Decision and Resource Management Plan (EIS, 1994 and RMP, 1995); and the Final Supplemental Environmental Impact Statement and Record of Decision and Standards and Guidelines for Amendments to the Survey and Manage, Protection Buffer, and other Mitigation Measures Standards and Guidelines (FSEIS, 2000 and S&M ROD, 2001) and amendments. Tiering refers to the coverage of general matters in broader environmental impact statements, such as those listed above.

This EA incorporates by reference the Grave Creek and Middle Cow Creek watershed analyses.

1.3 Decisions to be Made

The Glendale Resource Area Field Manager will:

1) Select an alternative.
2) Determine if the selected alternative would have significant effects, and whether to prepare an environmental impact statement, or issue a Finding of No Significant Impact (FONSI).
3) Determine whether the selected alternative is consistent with the Medford Resource Management Plan and broader level plans.

1.4 Issues of Concern

The following relevant issues were identified in the project by the interdisciplinary team (IDT) as being potentially significant. This environmental assessment (EA) focuses on these issues, both in terms of project design features (PDFs) and in describing environmental effects.

1. The proximity of the portions of the GLRA to the OSMP designated non-attainment areas of Grants Pass and Medford.
2 Potential for escaped fires as a result of pile burning.
3 Potential impacts to Special Status, Survey and Manage, and T&E species.
4. Potential impacts to some Riparian Reserves and water quality.

Chapter 2: Description of Alternatives

2.0 Proposed Action and Alternatives

2.1 Alternative 1: The No Action Alternative

The No Action alternative is defined as not implementing any aspect of the proposed action alternative. The No Action alternative also serves as a baseline or reference point for evaluating the environmental effects of the action alternative.

The Medford District Resource Management Plan related routine management actions would continue to occur, including fire suppression, road maintenance and plantation maintenance. Trends of increased vegetation growth and associated fire hazard would continue.

2.2 Alternative 2: Proposed Action

All pre-commercial thinning units identified on the attached maps would have the existing piles burned. The actual extent of slash treated will be dependent on available funding. Burning would occur within Riparian Reserves but not within 25 feet of streams or other water bodies. This 25 foot "no treatment zone" will be referred to as NTZ throughout the document. Occasionally a hand pile would occur within the NTZ but none of these piles would be burned.

2.2.1 Project Design Features

Project design features (PDFs) are specific measures included in the site specific design alternative 2 to minimize adverse impacts on the human environment. Many PDFs were developed by the ID team to limit impacts from this alternative. Many PDFs are contained under Best Management Practices (BMP), Appendix D, in the Resource Management Plan (RMP). Some of those have been included here for ease of fully understanding the project.

Any changes to PDFs during project implementation would require approval by the Glendale Field Manager.

2.2.1.1 Air Quality / Smoke Management

In conforming to air quality standards and guidelines, all prescribed burning would be managed in a manner consistent with the requirements of the Oregon Smoke Management Plan and the Department of Environmental Quality's Air Quality and Visibility Protection Program. When burn units are adjacent to rural residential areas, burning would be timed to produce the least amount of residual smoke possible. This can be accomplished by burning when conditions for smoke dispersal are optimal such as during rainy days and periods when atmospheric instability is present.

Patrol and mop-up of burned piles would occur when needed to prevent burned areas from rekindling and potentially becoming an escaped fire.

2.2.1.2 Fire and Fuels

Ignition of piles would be accomplished with drip torches or other hand held devices. Burning would be done in the fall/winter season after significant rainfall has occurred. Significant rainfall amounts would be one inch (1") in a 48 hour period, or a cumulative amount that wets the litter and duff layer and penetrates the mineral soil layer to 1/4 inch or more. These conditions would typically prevent the spread of fire outside the burning pile and minimize the risk of an escape.

A prescribed burn plan would be prepared to address burning objectives and operational concerns. Piles would be ignited except those within a designated no treatment zone (NTZ) of a Riparian Reserve, Survey &Manage or Threatened and Endangered buffer.

2.2.1.3 Special Status Species and Cultural Resources

Cultural resource surveys, surveys for special status plant and animal species and survey and manage species have been conducted. Measures appropriate to protect cultural sites and/or species will be taken. These could include: timing of treatment, buffering of areas to preclude treatment, or no treatment of the area.

During periods of high temperatures and low ground moisture conditions, molluscs may seek out covered piles as refugia. To reduce potential impacts to molluscs and mollusc habitat, hand piles would be created away from talus, rock structures, coarse woody debris, and pile burning would be done when temperatures and ground moisture conditions are conducive to mollusc dispersal away from covered piles.

Populations of Special Status, Threatened or Endangered, or Survey and Manage Plants will have 100 foot buffers. Pile burning will not occur within these areas.

2.2.1.4 Remnant Habitat for Fungi and Bryophytes

As part of this prescription, special treatment guidelines for mature and old growth trees providing remnant habitat for fungi and bryophytes would be applied. No hand piling or hand pile burning would occur within the drip-line of remnant trees (all land allocations).

2.2.1.5 Riparian Reserve Treatment

A 25' no treatment buffer (NTZ) would be retained along all streams and other water bodies. These buffers would extend from the edge of the riparian vegetation or, if no riparian vegetation exists, from the edge of the stream channel outward and would be delineated before project implementation.

Due to differences in vegetation and silvicultural treatment, pile density in Riparian Reserves is typically 5 to 10% lower than the upland areas. The amount of slash generated may necessitate placing a hand pile within a no treatment zone area in order to remove the fuel up to the no treatment zone line. Hand piles would not be ignited in no treatment zones.

2.2.1.6 Seasonal Operation Constraints

Seasonal operating constraints would be per Biological Opinion #1-7-96-F-392 (For "Other than timber Sales") and the RMP:

Spotted Owls - No work involving chainsaws would be permitted within 0.25-mile of a known active spotted owl nest or activity center between March 1 and June 30, or until the action agency biologist determines that the owls are non-nesting, no young are present, or juveniles have sufficiently dispersed. (Note: The spotted owl related operating season is less restrictive than that required in the RMP, however, the fact that it is specifically approved by the USFWS supports it being treated as a permissible exception.)

Bald Eagle – If any eagles are found, work activities within 1/4 mile non line-of-sight or ½ mile line-of-sight of active bald eagle nests would be restricted to between January 1 - August 1.

Peregrine falcons – If any pairs are found, avoid disturbance between February 1 - August 1 (RMP).

Other raptors – If any pairs are found, avoid disturbances within 1/4 mile of nest sites or activity centers that may disturb or interfere with nesting Between March 1 and July 15 (RMP).

Chapter 3: Affected Environment and Environmental Consequences

3.0 Introduction

Only substantive site-specific environmental changes that would result from implementing the proposed action or alternatives are discussed in this chapter. Table 3-1 identifies the critical elements subject to requirements specified in statute, regulation, or executive order and must be considered in all EAs. If an ecological component is not discussed, it should be assumed that the resource specialists have considered affects to that component and found the proposed action or alternatives would have minimal affects.

Table 3-1 Critical Elements by Alternative

Resource or Issue Affected by Alternative	Alternative 1	2	Resource or Issue Affected by Alternative	Alternative 1	2
Air Quality	**Yes**	**Yes**	Threatened & Endangered Species	**No**	**No**
Area of Critical Environmental Concern (ACEC)	**No**	**No**	Wastes, Hazardous/Solid	**No**	**No**
Cultural	**No**	**No**	Water Quality	**Yes**	**Yes**
Farmlands, Prime/Unique	**No**	**No**	Riparian Zones	**Yes**	**Yes**
Flood plains	**No**	**No**	Wild & Scenic Rivers	**No**	**No**
Native American Religious Concerns	**No**	**No**	Wilderness	**No**	**No**
Invasive Species	**Yes**	**Yes**	Environmental Justice	**No**	**No**
Energy	**No**	**No**	*Survey and Manage	**No**	**No**

*Non-Critical Element

3.1 Soils and Water Quality

3.1.1 Affected Environment

Proposed fuels treatments would occur in a variety of stand and vegetation types throughout the Glendale Resource Area. Geology, soils and vegetation communities are quite variable from west to east. The Middle Cow Creek and Grave Creek Watershed analyses contain an overall description of the environment. The EA focuses on those elements of the environment that would potentially be affected.

3.1.2 Environmental Consequences

3.1.2.1 Alternative 1: No Action

The existing slash is a fire hazard and increases the likelihood of damaged soils if a wild land fire occurs. This, in turn increases likelihood of damaged soils from hot fire occurrences in the

future. Sediment could reach small intermittent and perennial streams could potentially reach fish streams in pulses depending on precipitation rates following fire. As new plant growth would slowly take place, sediment quantities to the stream system would diminish through the short term. In approximately 10 years sediment rates would return to current levels. Due to loss of duff/litter layer and loss of the organic matter in the upper mineral soil as a source of nutrients, soil productivity would decrease substantially within these units.

3.1.2.2 Alternative 2: Proposed Action

Assuming a high average of 40 piles per acre with each pile covering 28 ft^2, burned spots after piles are burned would cover less than three percent of the ground surface. Assuming that most of the burned piles will result in a spot on which soil has substantial reduction of organic matter, this would result in reduction of soil productivity for the individual spots. Since the burned spots will occupy less than 3% of the treated units the overall reduction of soil productivity rate will be minimal. Erosion/sedimentation should not be a factor as the spots would be islands surrounded by a matrix of vegetative cover.

A wildland fire would burn with less intensity than under the no action alternative. Any resultant increase in erosion/sedimentation would thus likely be far less than without the treatment. Also the resulting decrease in soil productivity would likely be far less than without the treatment.

At the 5^{th} and 6^{th} field watershed level, cumulative effects of the proposed treatment on additional stream sediment over background levels would be minimal and would not likely be measurable.

3.2 Fisheries

3.2.1 Affected Environment

Most of the units proposed for treatment do not contain Riparian Reserves. Most of the Riparian Reserves that are in the proposed treatment units are intermittent streams which are not used by fish. Several streams are perennial but are not used by fish. A few fish-bearing perennial streams are near the proposed treatment units and support resident trout. Many of the intermittent streams in the project area are ephemeral and flow for only a short time each year. As a result, plants which are adapted to moist soil conditions may be present only within a few feet of the stream or not at all. Other intermittent streams and some perennial streams are in deep V-shaped channels with no floodplain, allowing riparian vegetation to grow only within a few feet of the stream. Outside of these narrow zones of riparian plants, the vegetation in the Riparian Reserve is similar to that which is found in the drier upland areas outside of the reserves. The natural stand condition in the areas outside the immediate riparian zone would be an open overstory and sparse understory dominated by fire-adapted species. Due to past logging practices and the exclusion of fire, forest stands in the project area are typically more dense and brushy than under natural conditions and have a higher fuel loading.

3.2.2 Environmental Consequences

3.2.2.1 Alternative 1: No Action

If no action is taken to hand pile and burn slash created by brushing and pre-commercial thinning, fuel loading in the Riparian Reserves will pose a greater wildfire hazard than if the proposed action of hand piling and burning slash is implemented. The risk of a stand-destroying fire would remain high in much of the Riparian Reserves, including miles of streams which would be vulnerable to the effects of wildfire (see Soil and Water Environmental Consequences).

3.2.2.2 Alternative 2: Proposed Action

Two of the five burn units in the Grave Creek HUC 5 watershed (Flume Descent #14 and Brimstone #8) and two of four units (Fortune Branch #2 and Stevens #2) in the Middle Cow Creek HUC 5 have no streams within exterior unit boundaries and therefore have no mechanism for delivering sediment to streams.

Three burn units in the Grave Creek HUC 5 watershed and two units in the Middle Cow Creek HUC 5 contain non-fish bearing streams. No treatment zones would prevent sediment from burn piles reaching streams:

Flume Descent #1:	1 mile to steelhead habitat in Flume Gulch
Levens Gulch #10:	0.3 miles to steelhead and cutthroat habitat and also to coho salmon critical habitat in Wolf Creek.
Quartz Queen #15-4:	0.3 mile to cutthroat trout habitat in Mill Creek.
Stevens Creek #1:	0.5 mile to steelhead and cutthroat trout habitat and also to coho salmon critical habitat
Fortune Branch #3:	0.2 mile to cutthroat trout habitat and 1 mile to steelhead habitat and critical habitat for coho salmon.

Burning in any of the units in the Middle Cow Creek and Grave Creek 5th field watersheds would have no effect on coho salmon or aquatic habitat because:

- Hand pile and burn treatments would have extremely limited potential for creating bare soil areas large enough to contribute sediment to streams as compared to broadcast burning.

- Burning would be done in the fall/winter season after significant rainfall has occurred. Significant rainfall amounts would be one inch (1") in a 48 hour period, or a cumulative amount that wets the litter and duff layer and penetrates the mineral soil layer to 1/4 inch or more. These conditions would typically prevent the spread of fire outside the burning pile and minimize the risk of an escape.

- No units are located directly on coho salmon habitat.

- Burn units are not concentrated in any particular 7th field watershed that supports coho

salmon.

The short and long term effects of the proposed action are beneficial at the site and watershed levels, as wildfire hazard will be reduced in and around Riparian Reserves. No cumulative effects are anticipated from the proposed action as burning will be widely dispersed spatially at the site and watershed levels.

3.3 Threatened & Endangered and Survey and Manage species

3.3.1 Affected Environment

The areas proposed for fuel reduction treatments include stands that are generally less than 30 years old. Stands less than 30 years old do not provide typical nesting, roosting, or foraging habitat for spotted owls, marbled murrelets, and bald eagles. Bald eagles and spotted owls may occasionally use young stands for foraging. This foraging is most likely associated with edges where adjacent large trees provide perching opportunities and cover. There are two spotted owls identified within ¼ mile of Levens Gulch Unit 10. For marbled murrelets, young stands do not provide suitable nesting habitat. Although the areas proposed for fuel reduction treatments are within the marbled murrelet zone 1 and zone 2, they are within a basin where there have been no murrelet detections and the probability of them occurring is considered very low.

For bald eagles, there are no known nests within ½ mile of the proposed activities. Additionally, these young stands do not provide preferred foraging habitat.

3.3.2 Environmental Consequences

3.3.2.1 Alternative 1: No Action

For some species, particularly small mammals, large quantities of slash may provide hiding cover. However, large quantities of untreated slash may also create obstacles to the movement of some terrestrial species and impediments to the foraging efficiency of some raptors.

The greatest concern is the increased risk of stand destroying fires associated with high fuel loading. As long as fuel levels remain high, the risk of stands being set back to earlier seral stages remains elevated and the ability to effectively manage for mature forests and associated wildlife species is greatly compromised.

For spotted owls, no impacts to suitable foraging habitat are anticipated as a result of the No Action alternative. Foraging by spotted owls in 15 - 30 year old stands is typically confined to the edges. There are no anticipated impacts to the marbled murrelet or to the bald eagle. The greatest risk to wildlife is associated with increased fire hazard.

3.3.2.2 Alternative 2: Proposed Action

In general, reducing fuel levels would remove habitat for smaller wildlife species strongly associated with this type of ground cover. Because not all slash piles are entirely burned and not

all slash is removed, some of the ground cover benefits provided by slash would remain intact. Estimates are that 5-15% of the targeted fuels will not be consumed. Overall, the greatest benefit associated with fuel reduction is the ability to more effectively manage stands to achieve mature forest conditions.

For spotted owls, fuel reduction will not have broad implications for the suitability of foraging habitat. This is based primarily on the fact that spotted owls typically confine foraging to the edge of young stands. Unit 10 has two spotted owls within approximately 0.25 miles. Burning would not occur during the critical dispersal period beginning March 1 and extending through June 30. Reducing fuel levels will enhance the long term ability to manage critical owl habitat and LSR areas for mature forest conditions, and aid in the recovery of T&E species using these areas.

Fuel reductions are not anticipated to result in impacts to the marbled murrelet. There are no anticipated direct impacts to the bald eagle. Reducing fuel levels will enhance the long term ability to manage these areas for mature forest conditions.

3.4 Air Quality

3.4.1 Affected Environment

The proposed treatment units are at least 10 miles north of the Grants Pass non-attainment area. PM -10 (particulate matter smaller than 10 microns) is the basis for this “non-attainment” designation (defined by the Oregon Department of Environmental Quality). Typical sources of PM 10 include industrial processes, woodstoves, roads, agricultural practices, and wildfires (RMP/EIS, 4-8). There are three small communities (Wolf Creek, Glendale, and Azalea) and Interstate-5 freeway nearby but are not identified as non-attainment areas.

Air quality and visibility monitoring sites do not exist in the immediate vicinity where treatments would occur, therefore, existing air quality information is not available. However, air quality is considered excellent because there are no stationary sources of particulate matter production and the proposed units are remotely located.

3.4.1.1 Alternative 1: No Action

While no direct impacts would be anticipated, indirect effects would be anticipated. Increased fire behavior intensities, flame lengths and rates of spread would result from a wildland fire event. High levels of emissions and particulate matter, exceeding that of a controlled burn, would be expected under this uncontrolled event. The threat of increased fire behavior would continue to exist until the fines have fallen off and the remaining larger fuels have compacted.

3.4.1.2 Alternative 2: Proposed Action

A direct effect is that smoke from prescribed burning would create a localized short term effect on visibility. The long term effect as mentioned in the Medford District Proposed Resource Management Plan Environmental would maintain and enhance air quality by utilizing prescribed fire to reduce the potential for greater wildfire emissions (RMP 41).

3.5 Invasive Plant Species

3.5.1 Affected Environment

There are many invasive species within the Planning Area, both on federal and non-federal lands. Notable species include Scotch broom, and meadow knapweed. Blackberries have overgrown many areas.

3.5.1.1 Alternative 1: No Action

Efforts on the Glendale Resource Area include treating areas infested with invasive plant species. Invasive species will continue to spread primarily along the road systems due to seeds carried unknowingly by vehicles.

3.5.1.2 Alternative 2: Proposed Action

It is anticipated that noxious and invasive plant species could spread and become established within the first ten years on pile burn areas. There is less chance on burned piles away from roads. Disturbance areas would be small and provide a minor contribution to the spread of noxious and invasive species.

3.6 Cumulative effects

3.6.1 Alternative 1: No-Action

Untreated slash would perpetuate current conditions and increase the potential for a stand replacement fire.

3.6.2 Alternative 2: Proposed Action

Cumulative effects of the proposed treatment at the 5^{th} and 6^{th} field watershed level would be minimal and would not likely be measurable because of the wide distribution of treatment units. This alternative would reduce the current fire hazard and decrease long-term adverse cumulative effects in the event of wildland fire.

Chapter 4: Agencies and Persons Consulted

4.1 Public Involvement

No formal public scoping or involvement was held on this proposed project. Extensive discussions about the Resource Area's prescribed burning program have been held with Oregon State Department of Forestry.

4.2 Availability of Document and Comment Procedures

The EA will be available for review at the BLM Medford District Office, the Medford District's web site (www.or.blm.gov/Medford/planning) or by request. A 15 day comment period will begin after public notification in the local newspapers. Comments, including names and street addresses of respondents, will be available for public review. Individual respondents may request confidentiality. If you wish to withhold your name or street address from public review or from disclosure under the Freedom of Information Act, you must state this prominently at the beginning of your written comment. Such requests will be honored to the extent allowed by law. All submissions from organizations or businesses, and form individuals identifying themselves as representatives or officials of organizations or businesses, will be made available for public inspection on their entirety.

4.3 Interdisciplinary Team

INTERDISCIPLINARY TEAM	TITLE	RESOURCE VALUES ASSIGNED
Sherwood Tubman	Ecosystem Planner	NEPA
Brian Keating	Fuels Mgmt. Specialist	Team Lead, Fire Risk/Hazard, Fuels Treatments, Forest Health
Mike Main	Fuels Mgmt Specialist	Fuels Program Lead
Marlin Pose	Wildlife Biologist	Wildlife, Prime or Unique Lands
Rachel Showalter	Botanist	Threatened & Endangered Plants
Robert Bessey	Fisheries Biologist	Fisheries
Amy Sobiech	Archaeologist	Cultural Resources
Jim Brimble	Silviculturist	Silviculture

Martin Lew
Ecosystem Planner
Reviewed for format and consistency

10/27/03
Date

References

USDI. 1994. Medford District Proposed Resource Management Plan/Environmental Impact Statement. October 1994.

USDI. 1995. Record of Decision and Resource Management Plan, Bureau of Land Management, Medford District. Medford, OR.